

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 59-036600

(43)Date of publication of application : 28.02.1984

(51)Int.Cl. C02F 3/30  
C02F 3/34

(21)Application number : 57-146243

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(22)Date of filing : 25.08.1982

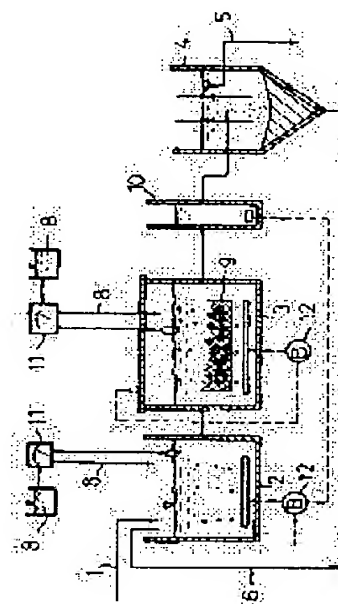
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## (54) TREATMENT OF WASTE WATER

## (57)Abstract:

**PURPOSE:** To oxidize and decompose exactly dithionic acid and polythionic acid in waste water by denitrifying biologically NOX by using sulfur on a sulfur compd. in an anaeration stage, and bringing the propagated microbes into contact with the waste water in an aerobical stage.

**CONSTITUTION:** Waste water 1 is admitted together with return sludge into a nitrification tank 2, where NH<sub>3</sub> is nitrified to NOX and dithionic acid and polythionic acid are oxidized to sulfuric acid. The liquid mixture completed of the nitrification flows into a denitrification tank 3, where the NOX is denitrified by the sulfur particles as a reducing agent 9 packed in the tank 3. The outflow liquid mixture from the tank 3 flows into a reaction tank 10 under an aerobic condition where the org. materials eluted with activated sludge are oxidized under an anaerobic condition to improve the quality of the treated water; furthermore, the fine N<sub>2</sub> foam sticking to the flocs of microbes is removed under the exposure to the atmospheric air, and the floating of the flocs of the microbes in a settling tank 4 is prevented.



## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]